Log Data Report

Borehole Information:

Borehole:	399-3-24 (C6199)		Site:	300-FF-5	
Coordinates (WA St Plane)		GWL[1] (ft):	29	GWL Date:	7/11/2008
North (m)	East (m)	Drill Date	TOC[2] Elevation	Total Depth (ft)	Type
116044.6	594238.7	7/10/2008	Unknown	65	Sonic

Casing Information:

Casing Type	Stickup (ft)	Outer Diameter (in.)	Inside Diameter (in.)	Thickness (in.)	Top (ft)	Bottom (ft)
Threaded Steel	2.6	7 7/8	6 7/8	3/8	2.6	58

Borehole Notes:

Casing data and total depth was reported by the site geologist. Casing diameters were measured by the logging engineer using a steel tape and rounded to the nearest 1/16 inch. The zero reference is the ground surface.

Logging Equipment Information:

Logging System:	Gamma 4 L		Type:	60% HPGE SGLS
			Serial No.:	47TP32211A
Effective Calibration Date:	12/31/2007	Calibration Reference:	HGLP-CC-027	
		Logging Procedure:	HGLP-MAN-002; Rev. 0	

Logging System:	Gamma 4 H		Type:	NMLS
			Serial No.:	H310700352
Effective Calibration Date:	11/06/2007	Calibration Reference:	HGLP-CC-021, Rev. 0	
		Logging Procedure:	HGLP-MAN-002; Rev. 0	

Spectral Gamma Logging System (SGLS) Log Run Information:

Log Run	1	2 Repeat			
Date	07/12/08	07/12/08			
Logging Engineer	Pearson	Pearson			
Start Depth (ft)	64.0	6.0			
Finish Depth (ft)	0.0	12.0			
Count Time (sec)	200	200			
Live/Real	R	R			
Shield (Y/N)	NA	NA			
MSA Interval (ft)	0.5	0.5			
Log Speed (ft/min)	NA	NA			
Pre-Verification	DL621CAB	DL621CAB			
Start File	DL621000	DL621129			
Finish File	DL621128	DL621141			
Post-Verification	DL621CAA	DL621CAA			
Depth Return Error (in.)	½ low	0			
Comments	Repeat Section	None			

Neutron Moisture Logging System (NMLS) Log Run Information:

Log Run	1	2 Repeat			
Date	7/12/2008	7/12/2008			
Logging Engineer	Pearson	Pearson			
Start Depth (ft)	0.0	10.0			
Finish Depth (ft)	29.0	13.0			
Count Time (sec)	15	15			
Live/Real	R	R			
Shield (Y/N)	NA	NA			
MSA Interval (ft)	0.25 ft	0.25 ft			
ft/min	NA	NA			
Pre-Verification	DHG92CAB	DHG92CAB			
Start File	DHG92000	DHG92117			
Finish File	DHG92116	DHG92129			
Post-Verification	DHG92CAA	DHG92CAA			
Depth Return Error (in.)	NA	¼ high			
Comments	None	Repeat section.			

Logging Operation Notes:

The SGLS data were acquired 7/12/2008 with the Gamma 4L, HO 68B-3573 detector. SGLS pre- and post-survey verification measurements were acquired in the Amersham KUTh-115 field verifier. A centralizer was installed on the sonde. Maximum logging depth was 64.2 feet before the sonde was un-weighted.

The Neutron Moisture data were acquired 7/12/2008 with Gamma 4H, HO 68B-3573 detector. NMLS pre- and post-survey verification measurements were acquired in the standard field verifier. A centralizer was installed on the sonde. Maximum logging depth was 29.0 feet before water was encountered.

Analysis Notes:

Analyst:	L SPINNER	Date:	09/10/2008	Reference:	GJO-HGLP 1.6.3, Rev. 0

The SGLS and NMLS pre- and post-survey verifications spectra met acceptance criteria.

A casing correction for a 3/8-inch casing was applied for the eight inch threaded steel casing from 0 to 58 feet, leaving seven feet of the remaining borehole uncorrected. A water correction was applied from 29 feet to end of logging depth.

SGLS spectra were processed in batch mode using APTEC SUPERVISOR to identify individual peaks and count rates. Concentrations were calculated using an EXCEL template identified as G4LDec07.xls using an efficiency function and corrections for casing, dead time and water as determined by annual calculations. NMLS spectra were processed in batch mode in APTEC SUPERVISOR to identify counts. Count rates were calculated using an EXCEL template identified as G4HNov07.xls. NMLS data are presented in counts per second (cps), because no calibration data is available for a 6 7/8 inch inner diameter borehole casing.

Results and Interpretations:

Cs –137, U-235 and U-238 (Pa-234m) were identified by the routine processing software at various depth intervals. Additional scrutiny of the individual spectra indicated no valid energy peaks and the detections are considered statistical fluctuations.

Co-60 was detected at 0.07pCi/g at 13.5 feet. This detection is valid and the 1333 keV energy peak is corroborated by the Co-60 energy peak at 1173 keV.

The variations in the Natural Gamma Logs may indicate a stratigraphy change at 53 feet.

The Natural Gamma Logs (KUT) and the Moisture Repeat plot indicate good repeatability.

List of Log Plots:

Depth Reference is ground surface

Manmade Radionuclides
Natural Gamma Logs
Combination Plot (0-120 feet), with Moisture
Total Gamma & Dead Time
Total Gamma & Moisture
Repeat Section of Natural Gamma Logs (6–12 ft)
Moisture Repeat Section (10–13 ft.)

[1] GWL – groundwater level
[2] TOC – top of casing

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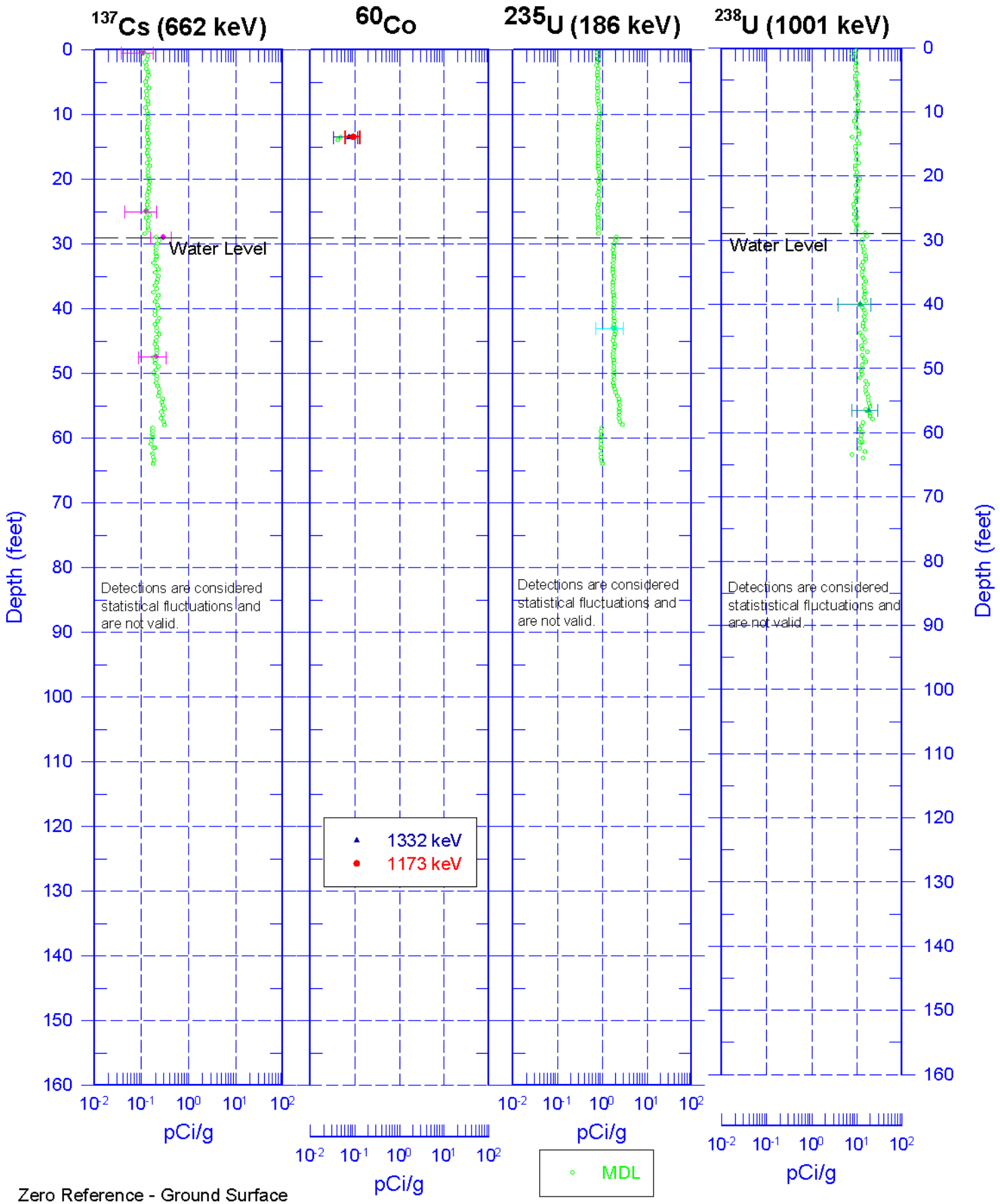
399-3-24 (C6199)
Manmade Radionuclides



Zero Reference - Ground Surface

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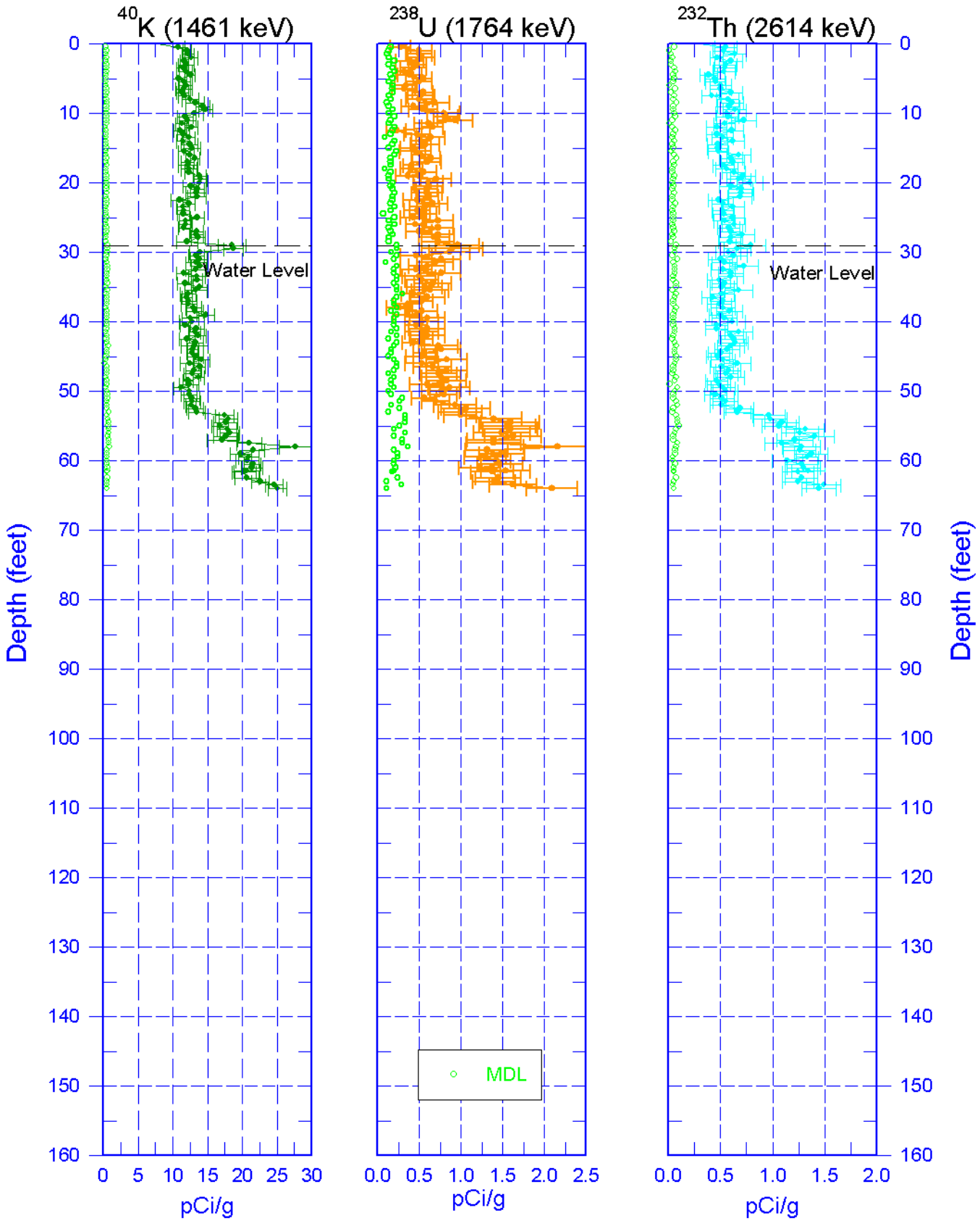
399-3-24 (C6199)
Natural Gamma Logs



Zero Reference - Ground surface

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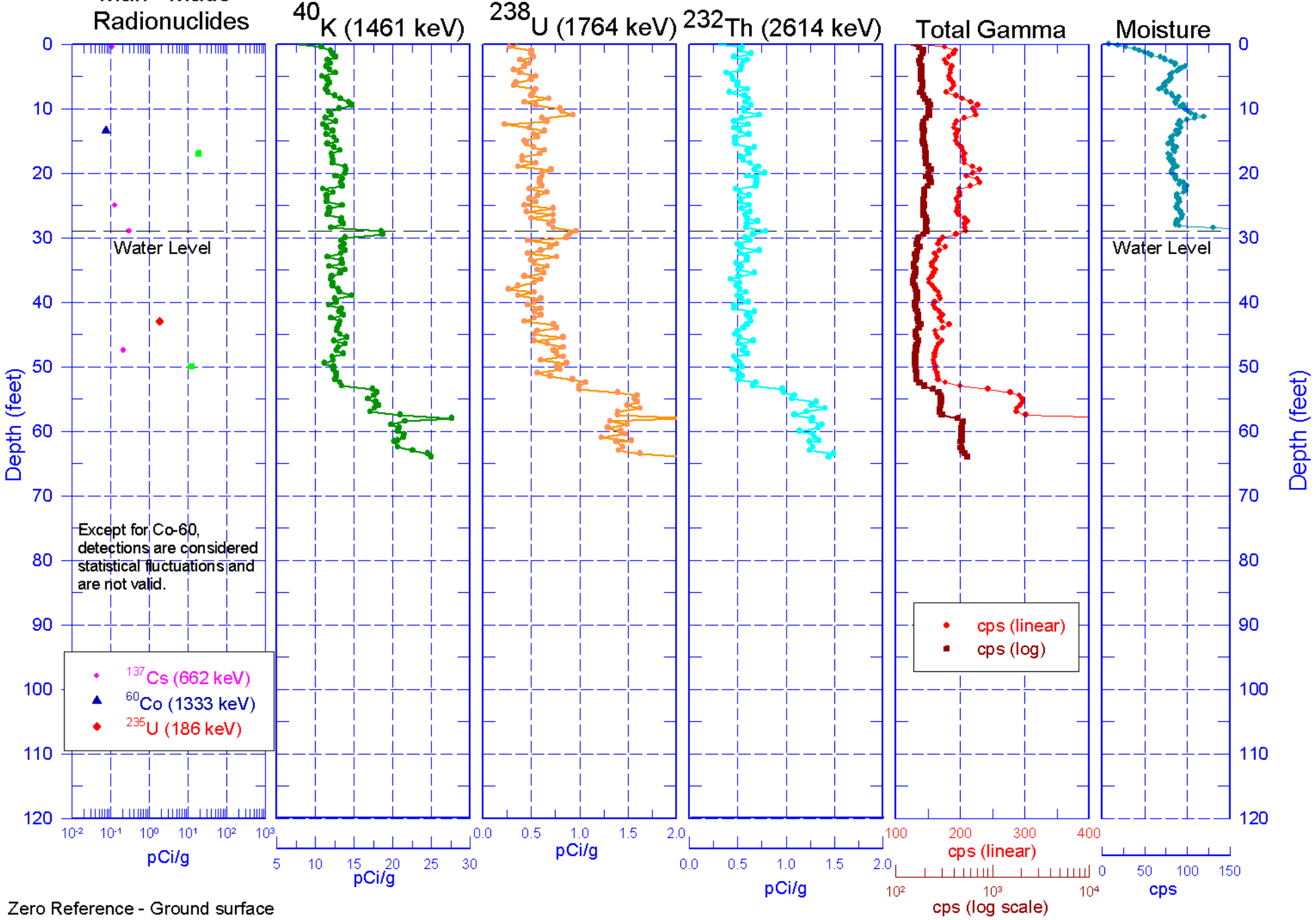
399-3-24 (C6199) Combination Plot (0-120 ft.)



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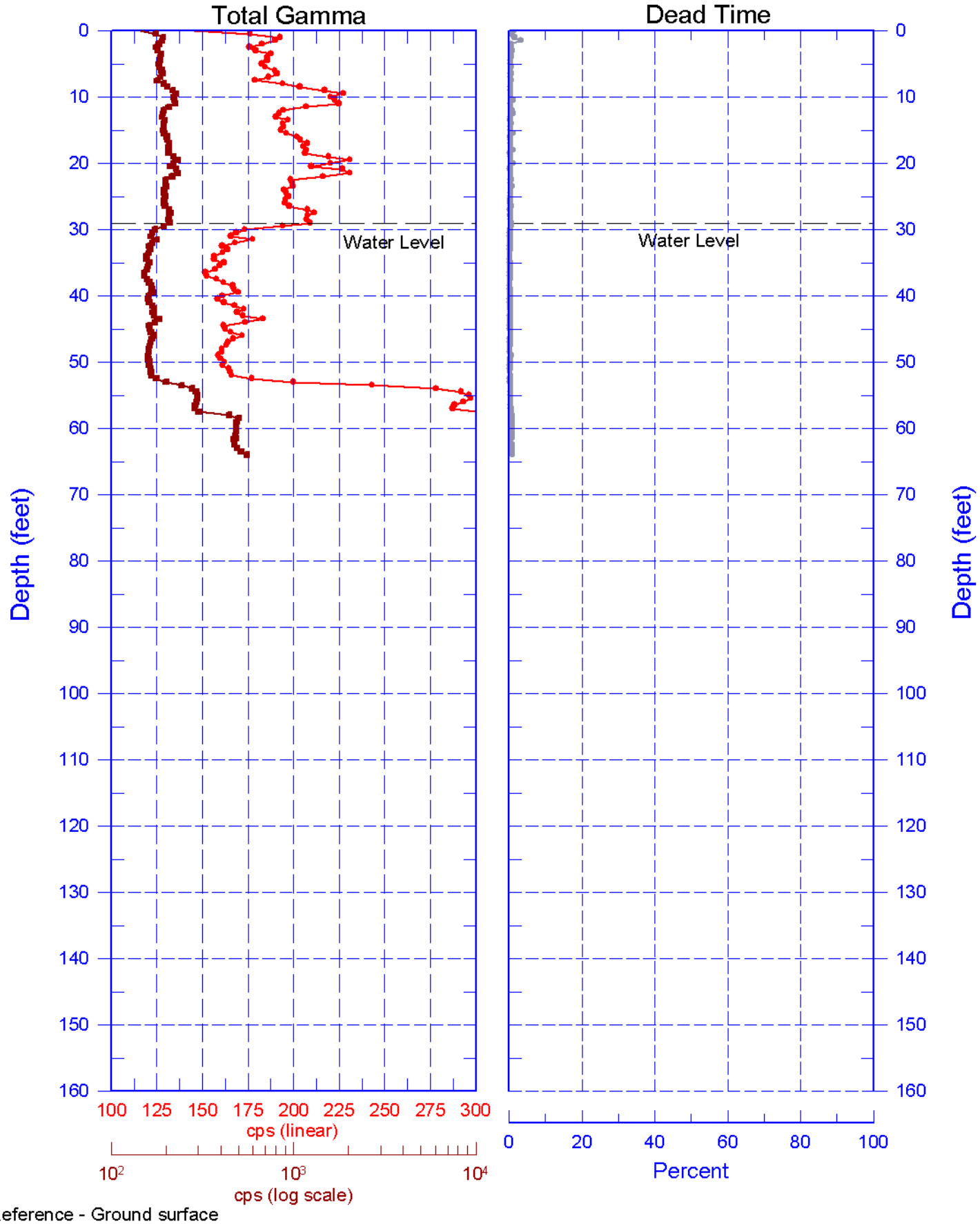
399-3-24 (C6199)
Total Gamma & Dead Time



Reference - Ground surface

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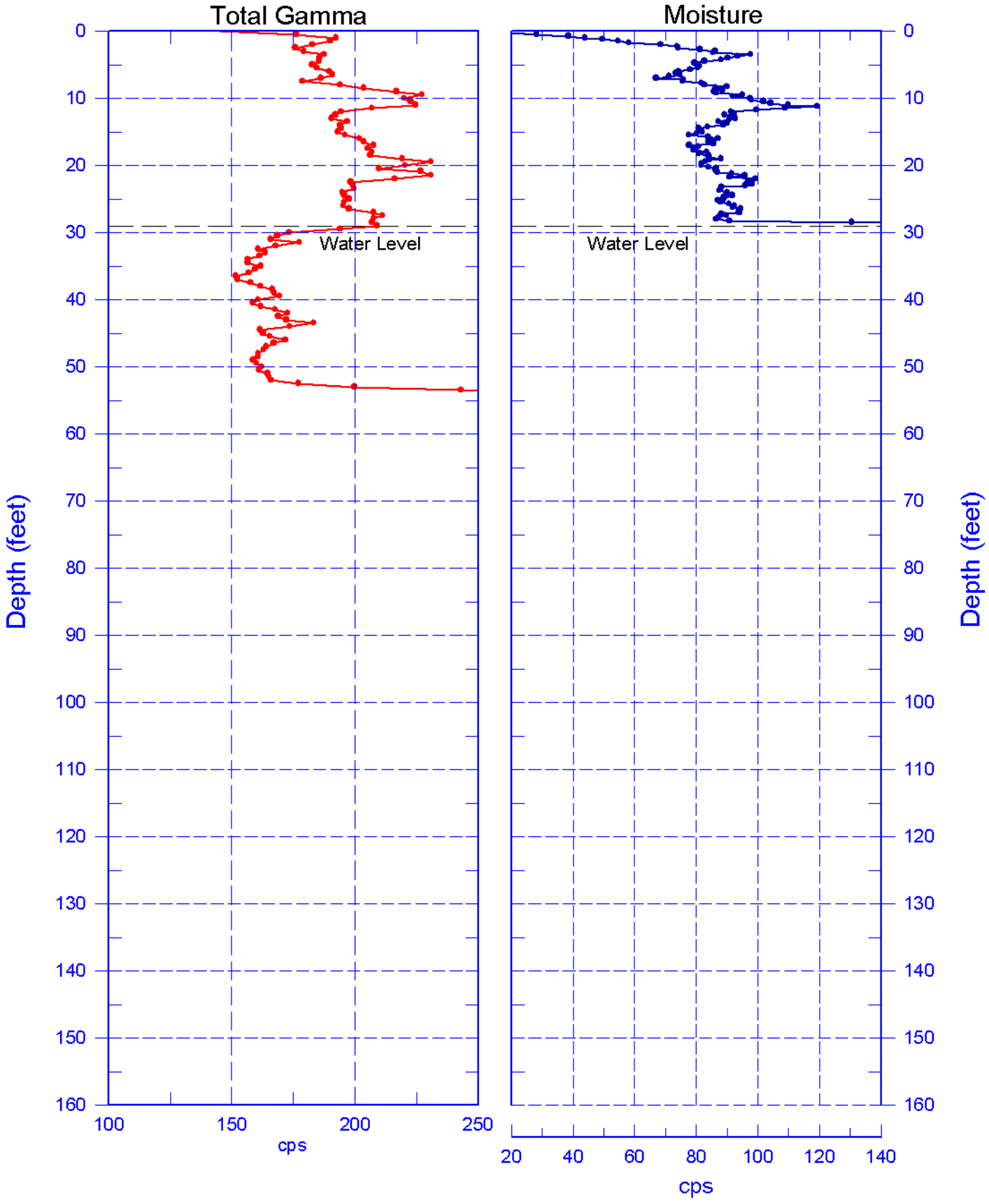
399-3-24 (C6199)
Total Gamma & Moisture



Reference - Ground Surface

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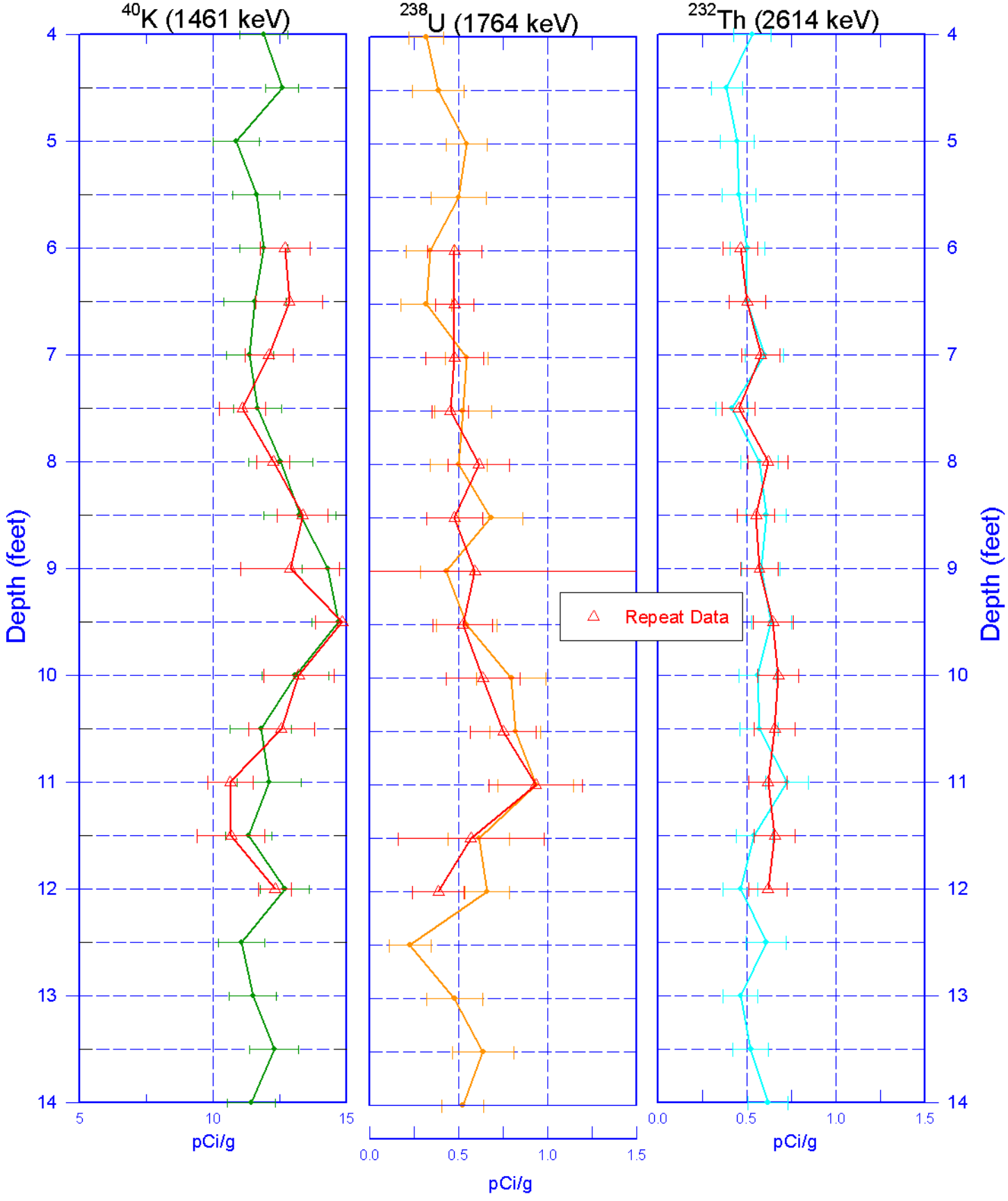
399-3-24 (C6199)

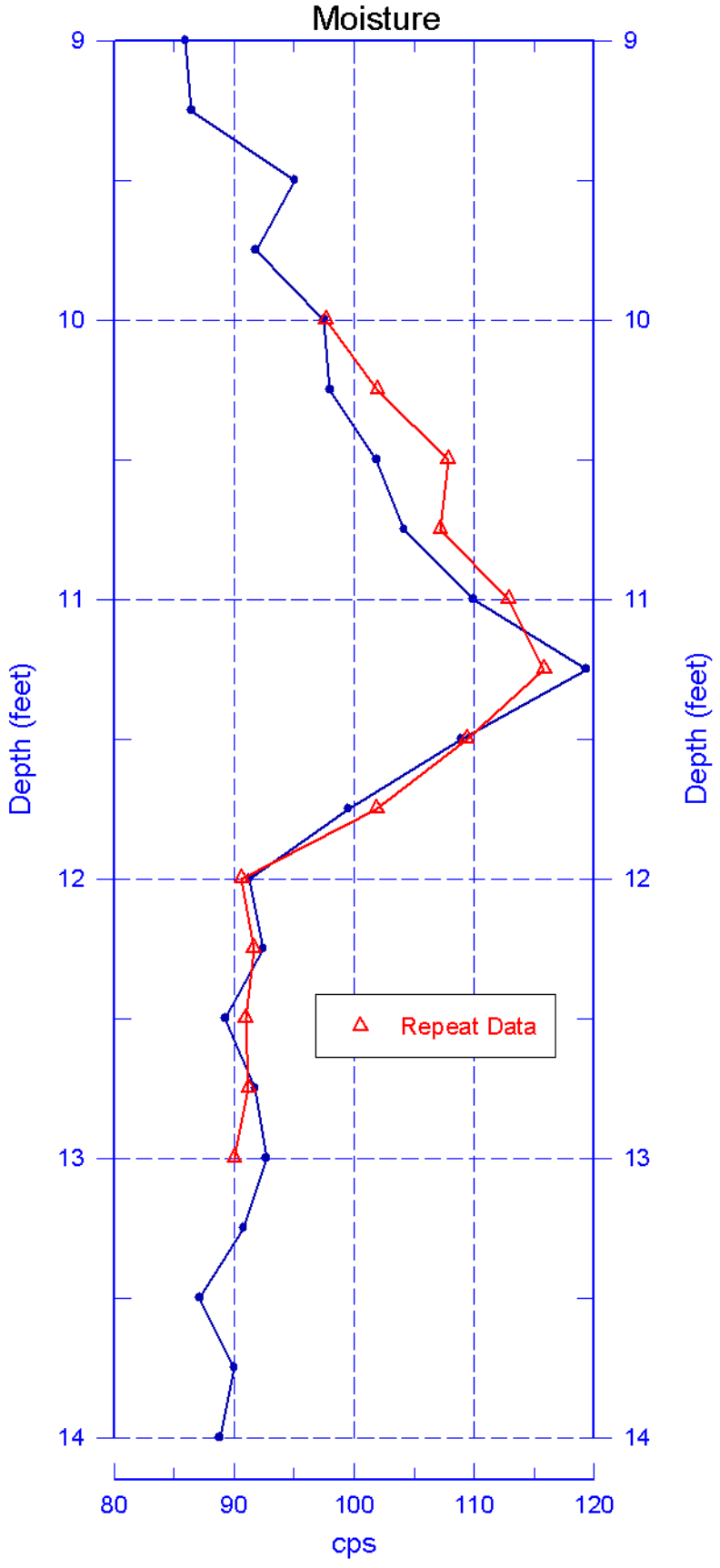
Repeat Section of Natural Gamma Logs (6-12 ft.)



Zero Reference - Ground surface

Stoller
Hanford Office

399-3-24 (C6199)
Moisture Repeat Section



Reference - Ground Surface